

AMENDMENTS TO THE CLAIMS

The following claim listing replaces all prior listings and versions of the claims:

LISTING OF CLAIMS

1. (Cancelled)

2. (Currently amended) A fuel tank for a fuel cell, the fuel tank accommodating a liquid fuel supplied to a fuel cell main body and being detachable with respect to said fuel cell main body, the fuel tank comprising:

a tank container configured to accommodate the liquid fuel;

a fuel injecting portion coupled to the tank container and configured to be engaged with a fuel supply portion included in said fuel cell main body, ~~and inject said liquid fuel accommodated in said fuel tank~~ thereby providing a flow path for the liquid fuel between the tank container and the fuel cell main body; and

a flow path opening and closing member including a fuel valve and a closing valve, the fuel valve being provided in the fuel injection portion and the closing valve being provided in the fuel injection portion, the fuel valve being located between the tank container and the closing valve along the flow path for the liquid fuel, wherein:

the closing valve is configured to engage with the fuel supply portion and to open before the fuel valve opens when the fuel injecting portion and the fuel supply portion are being connected, and

the closing valve is configured to close after the fuel valve closes when the fuel injecting portion and the fuel supply portion are being disconnected. ~~configured to be provided in said fuel injecting portion, allow said liquid fuel to pass to said fuel supply portion from said fuel injecting~~

~~portion after said fuel supply portion and said fuel injecting portion are joined, and shut off the passage of said liquid fuel to said fuel supply portion from said fuel injecting portion before said fuel supply portion and said fuel injecting portion are disconnected,~~

~~wherein said flow path opening and closing member is constituted by a fuel valve and a closing valve provided in a flow path of said liquid fuel.~~

3. (Previously presented) The fuel tank for the fuel cell according to claim 2, wherein said fuel valve has a handle configured to open and close a liquid fuel flow path in said fuel valve by a valve opening and closing member provided in said fuel cell main body, in accordance with an attachment and detachment between said fuel cell main body and said fuel tank.

4. (Previously presented) The fuel tank for the fuel cell according to claim 3, further comprising:

a handle operating mechanism provided in said fuel tank at a position capable of operating said handle, wherein said handle operating mechanism has a handle operating member configured to be operated by said valve opening and closing member in accordance with the attachment and detachment between said fuel cell main body and said fuel tank, bring into contact with said handle, and open and close said liquid fuel flow path; and

an improper operation preventing member configured to allow said handle operating member to move only at a time of connecting the fuel tank complying with said fuel cell main body to said fuel cell main body.

5. (Previously presented) The fuel tank for the fuel cell according to claim 3, wherein said fuel valve has a member for rotation corresponding to said handle and engaging with said valve opening and closing member; and an engaging portion configured to rotate said valve opening and closing member engaging with said member for rotation in accordance with the attachment and detachment between said fuel cell main body and said fuel tank.

6. (Previously presented) The fuel tank for the fuel cell according to claim 2, further comprising a casing provided with a concave portion accommodating said fuel injecting portion and said flow path opening and closing member,

wherein said casing has a shutter configured to be provided in an opening portion of said concave portion and open and close said concave portion at a time of attaching and detaching said fuel cell main body and said fuel tank.

7. (Canceled)

8. (Currently amended) The fuel tank for the fuel cell according to claim 2, ~~further comprising: a tank portion configured to be connected to said fuel injecting portion, accommodate said liquid fuel and be~~ wherein the tank container is made of a material which is deformable in accordance with a reduction of the contents[[:]], the fuel tank further comprising:

a casing configured to accommodate said tank ~~portion~~ container in an inner portion so as to maintain said inner portion in an airtight state; and

an air pressure balancing portion configured to be provided in said casing and balance an air pressure between inner and outer sides of said casing.

9. (Previously presented) The fuel tank for the fuel cell according to claim 2, wherein said fuel valve is constituted by an electromagnetic valve which opens and closes the flow path on a basis of an electric signal.

10. (Cancelled)

11. (Currently amended) A fuel cell system comprising:
a fuel tank for a fuel cell, the fuel tank accommodating a liquid fuel, wherein said fuel tank comprises:

a tank container configured to accommodate the liquid fuel,

a fuel injecting portion coupled to the tank container and configured to be engaged with a fuel supply portion included in said fuel cell, and inject said liquid fuel accommodated in said fuel tank, and thereby providing a flow path for the liquid fuel between the tank container and the fuel cell, and

a flow path opening and closing member including a fuel valve and an injecting portion side closing valve, the fuel valve being provided in the fuel injection portion and the injecting portion side closing valve being provided in the fuel injection portion, the fuel valve being located between the tank container and the injecting portion side closing valve along the flow path for the liquid fuel, wherein:

the injecting portion side closing valve is configured to engage with the fuel supply portion and to open before the fuel valve opens when the fuel injecting portion and the fuel supply portion are being connected, and

the injecting portion side closing valve is configured to close after the fuel valve closes when the fuel injecting portion and the fuel supply portion are being disconnected
~~configured to be provided in said fuel injecting portion, allow said liquid fuel to pass to said fuel supply portion from said fuel injecting portion after said fuel supply portion and said fuel injecting portion are joined, and shut off the passage of said liquid fuel to said fuel supply portion from said fuel injecting portion before said fuel supply portion and said fuel injecting portion are disconnected; and~~

a fuel cell main body configured to be detachable with respect to said fuel tank and configured to include the fuel supply portion engaging with said fuel injecting portion of said fuel tank and ~~a power generating portion generating an electric power by said supplied liquid fuel, wherein: said flow path opening and closing member included in said fuel tank is constituted by a fuel valve provided in a flow path of said liquid fuel and an injecting portion side closing valve, and~~ said fuel supply portion provided in said fuel cell main body has a supply portion side closing valve which is brought into contact with said injecting portion side closing valve so as to open and close the flow path.

12. (Currently amended) The fuel cell system according to claim 11, wherein said fuel cell main body further has a valve opening and closing member configured to act on a handle opening and closing a liquid fuel flow path of [[a]] the fuel valve ~~which is included in said fuel tank for the fuel cell and constitutes said flow path opening and closing member~~ in accordance with an attachment and detachment between said fuel cell main body and said fuel tank for the fuel cell,

wherein said valve opening and closing member is constituted by a rod-shaped member having such a length as to open said liquid fuel flow path with respect to said handle after said fuel injecting portion and said fuel supply portion are joined, and close said liquid fuel flow path with respect to said handle before said fuel injecting portion and said fuel supply portion are disconnected.

13. (Currently amended) The fuel cell system according to claim 11, wherein ~~[[a]] the fuel valve constituting said flow path opening and closing member~~ has a member for rotation configured to correspond to a handle in which the liquid fuel flow path of said fuel valve is opened and closed by an opening and closing mechanism provided in said fuel supply portion in said fuel cell main body and configured to engage with said opening and closing mechanism, and an engagement portion configured to move said opening and closing mechanism engaging with said member for rotation in accordance with the attachment and detachment between said fuel cell main body and said fuel tank for the fuel cell, and

wherein said opening and closing mechanism has a ring member which is rotatable with respect to said fuel supply portion; a connection member configured to be provided in said ring member, be engaged with said engagement portion at a time when said fuel supply portion and said fuel injecting portion are joined, and rotate said ring member in accordance with the attachment and detachment between said fuel cell main body and said fuel tank for the fuel cell; and a valve rotating member configured to be provided in said ring member, be engaged with said member for rotation after said connection member and said engagement portion are engaged, and move said member for rotation in accordance with a rotation of said ring member so as to open and close said fuel valve.

14. (Previously presented) The fuel cell system according to claim 11, further comprising a lock mechanism configured to lock said tank for the fuel cell to said fuel cell main body at a time when said tank for the fuel cell is installed to said fuel cell main body in a state in which said liquid fuel can be supplied to said fuel cell main body from said tank for the fuel cell.

15. (Currently amended) The fuel cell system according to claim 11, wherein ~~said fuel tank for the fuel cell further comprises a tank portion configured to be connected to said fuel injecting portion, accommodate said liquid fuel and be~~ said tank container is made of a material deformable in accordance with a reduction of the contents~~[[;]],~~ said tank further comprises a casing configured to accommodate said tank ~~portion~~ container in an inner portion and maintain said inner portion in an airtight state; and an air pressure balancing portion configured to be provided in said casing and balance an air pressure between inner and outer sides of said casing, and

wherein said fuel cell main body further comprises an engagement mechanism configured to be engaged with said air pressure balancing portion and balance the air pressure between the inner and outer sides of said casing at a time when said tank for the fuel cell is installed to said fuel cell main body.

16. (Previously presented) The fuel cell system according to claim 11, wherein said flow path opening and closing member included in said fuel tank for the fuel cell is constituted by an electromagnetic valve for opening and closing the flow path on the basis of an electric signal, and

wherein said fuel cell main body further comprises a lock mechanism configured to detect a matter that said tank for the fuel cell is installed to said fuel cell main body in a state in which said liquid fuel can be supplied to said fuel cell main body from said tank for the fuel cell, and a control portion configured to open and close said electromagnetic valve in response to a result of detection by said lock mechanism.

17. (Canceled)